A U S T I N C I T Y C O U N C I L

AGENDA

Recommendation for Council Action (Purchasing)

Austin City Council	**Item ID:**	59198	**Agenda Number**	50.
Meeting Date:	June 23, 2016			
Department:	Purchasing			

Subject

Authorize negotiation and execution of a 36-month contract with PECAN STREET INC., to provide residential solar and energy storage implementation services, in an amount not to exceed $900,000.

Amount and Source of Funding

Funding in the amount of $839,144 is available in the Fiscal Year 2015-2016 Capital Budget of Austin Energy. Funding for the remaining 33 months of the original contract period is contingent upon available funding in future budgets.

Fiscal Note

A fiscal note is attached.

Purchasing Language:	Critical Business Need
Prior Council Action:	
For More Information:	Gage Loots, Corporate Purchasing Manager, 512-322-6251
Boards and Commission Action:	May 16, 2016 - Recommended by the Electric Utility Commission on an 11-0 vote. May 17, 2016 - Recommended by the Resource Management Commission on a 7-0 vote with Commissioners Gill, Santiago, and Wong absent, and one vacancy.
Related Items:	
MBE / WBE:	This contract is exempt from the City Code Chapter 2-9C Minority Owned and Women Owned Business Enterprise Procurement Program; therefore, no subcontracting goals were established.

Additional Backup Information

In February 2016, the U.S. Department of Energy (DOE) awarded the City (Austin Energy) a $4,300,000 cooperative agreement grant under the DOE Sustainable and Holistic Integration of Energy Storage and Solar PV (SHINES) program. Austin Energy's proposal for the Austin SHINES project includes the design, development, and demonstration of integrated photovoltaic (PV) and energy storage solutions that are scalable, secure, reliable and cost-effective. The integration of field assets is supported by a software management platform that optimizes the use of solar PV and energy storage. The goal of the DOE funding opportunity is to enable holistic design and widespread sustainable development of low-cost, flexible, and reliable solutions that have energy storage as one of the key components, for successful integration increasing levels of solar PV generation. Austin SHINES is a pilot project in Austin to demonstrate the capabilities of energy storage at the utility, commercial, and residential scale with solar PV integration. Austin Energy presented an overview of the Austin SHINES project to the Austin Energy Utility Oversight Committee in March 2016.

The application process for this DOE funding opportunity required the compilation of a project team from the onset of the project's proposal. Pecan Street Inc. is a key member of the Austin SHINES project and a named sub-recipient of the DOE award. Through its prior work, Pecan Street has demonstrated the technical feasibility of proposed technologies and capability to achieve anticipated performance targets needed to meet the application and submission requirements of this grant. As such, Austin Energy designated this purchase as a Critical Business Need in accordance with Senate Bill 7, as adopted by the City as Resolution No. 040610-02.

The purpose of this contract is for Pecan Street, Inc. to provide the products and services necessary to complete the residential portion of the Austin SHINES project, where approximately 24 residential sites with existing residential solar PV systems will be identified in the Austin Energy service area to participate. Each of the identified residential sites will be upgraded to include a meter collar and smart inverter. The meter collar provides a new, easy and low-cost way to interconnect solar PV through a device located between the meter and the socket. It also serves as a communications option for use with an optimization platform for the active management of distributed energy resources (DER), such as solar PV and energy storage. That active management is accomplished through smart inverters, which allow for advanced functionality of solar PV and energy storage. Smart inverters include bidirectional communications capability allowing Austin Energy to send and receive signals to operate DER in a manner to maximize their value. Approximately six of the sites will also be provided a residential energy storage system.

Distribution of this equipment will allow the study of several use cases under the Austin SHINES project. This includes sites with autonomous settings (established settings under a "set and forget" model that does not require active monitoring or control), sites under a direct utility control business model (directly connected to Austin Energy's DER optimization platform, which will assess each site's capability and send operation signals directly to the site), and sites (those with PV and energy storage system) under an aggregation model (connected to Austin Energy's DER optimization platform through an intermediary—Pecan Street—who receives signals from Austin Energy and then determines how to meet the need by allocating and sending operation signals to the sites under its purview. The aggregated model provides a consolidation service to streamline interactions on behalf of the utility. Pecan Street will be responsible for the planning, testing, procurement, and installation of the equipment on all residential sites and the integration of communications between these systems and the project's control systems, as applicable. Pecan Street will collect and analyze data associated with the residential deployments, provide reports required for the grant, and provide data to Austin Energy. For the aggregation model, Pecan Street will develop an intermediary software solution that controls the individual residential sites while offering any excess capacity to Austin Energy for use in optimizing the DER that are part of the Austin SHINES project.

The Austin SHINES project aims to establish a template for other utilities and regions to follow to cost-effectively maximize the penetration of distributed solar PV. In addition, the proposed solution will enable distribution utilities to mitigate potential negative impacts of high penetration levels of PV caused by the intermittency and variability of solar production, which causes stress to the grid. Specific objectives include the installation of approximately four

mega-watts of distributed storage, approximately 30 smart inverters and other enabling technologies. All of these resources will be integrated and optimized at the utility level using an approach that allows a variety of management strategies, and drives development of enabling standards as well as technology innovation.